

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 26.11.2018

Version 6.5

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## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Catalogue No. 117958

Product name Kjeldahl tablets for Wieninger method 3.5g/tablet

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

### 1.3 Details of the supplier of the safety data sheet

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

1.4 Emergency telephone number Please contact the regional company representation in your country.

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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Chronic aquatic toxicity, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard statements*

H412 Harmful to aquatic life with long lasting effects.

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## *Precautionary statements*

Prevention

P273 Avoid release to the environment.

## **Reduced labelling (≤125 ml)**

### *Hazard statements*

H412 Harmful to aquatic life with long lasting effects.

## **2.3 Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Chemical nature Mixture of inorganic and organic compounds

### **3.1 Substance**

Not applicable

### **3.2 Mixture**

#### **Hazardous components (REGULATION (EC) No 1272/2008)**

##### *Chemical name (Concentration)*

CAS-No.	Registration number	Classification
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Copper(II) sulphate ( $\geq 1\%$ - $< 2,5\%$ )		
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7758-98-7	01-2119520566-40-	
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xxxx		
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Acute toxicity, Category 4, H302

Skin irritation, Category 2, H315

Eye irritation, Category 2, H319

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

M-Factor: 10

Selenium ( $\geq 1\%$ - $< 2,5\%$ )		
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7782-49-2	*)	
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Acute toxicity, Category 3, H301

Acute toxicity, Category 3, H331

Specific target organ toxicity - repeated exposure, Category 2,

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H373

Chronic aquatic toxicity, Category 4, H413

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

### 4.2 Most important symptoms and effects, both acute and delayed

Nausea, Vomiting

### 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

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Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Sulphur oxides

## 5.3 Advice for firefighters

*Special protective equipment for firefighters*

In the event of fire, wear self-contained breathing apparatus.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

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## *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

## **7.2 Conditions for safe storage, including any incompatibilities**

### *Storage conditions*

Tightly closed. Dry.

Recommended storage temperature see product label.

## **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## **SECTION 8. Exposure controls/personal protection**

### **8.1 Control parameters**

### **8.2 Exposure controls**

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

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Glove material: Nitrile rubber

Glove thickness: 0,11 mm

Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

## *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## **Environmental exposure controls**

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	tablets
Colour	blue
Odour	odourless
Odour Threshold	Not applicable

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pH	ca. 5 at 200 g/l 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	200 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.

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Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

none

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.



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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

##### *Acute oral toxicity*

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Symptoms: Possible damages:, After uptake of large quantities:, Nausea, Vomiting

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

##### *Acute inhalation toxicity*

Acute toxicity estimate: > 5 mg/l; 4 h ; dust/mist

Calculation method

##### *Acute dermal toxicity*

This information is not available.

##### *Skin irritation*

This information is not available.

##### *Eye irritation*

This information is not available.

##### *Sensitisation*

This information is not available.

##### *Germ cell mutagenicity*

This information is not available.

##### *Carcinogenicity*

This information is not available.

##### *Reproductive toxicity*

This information is not available.

##### *Teratogenicity*

This information is not available.

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## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

### **11.2 Further information**

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

### **Components**

#### *Copper(II) sulphate*

##### *Acute oral toxicity*

LD50 Rat: 481 mg/kg

OECD Test Guideline 401

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

##### *Acute dermal toxicity*

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 402

##### *Sensitisation*

Maximisation Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

##### *Germ cell mutagenicity*

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## *Genotoxicity in vivo*

Micronucleus test

Mouse

male and female

Oral

Result: negative

(ECHA) The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

unscheduled DNA synthesis assay

Rat

male

Oral

Result: negative

Method: OECD Test Guideline 486

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

## *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

## *Selenium*

*Germ cell mutagenicity*

*Genotoxicity in vitro*

reverse mutation assay

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

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## SECTION 12. Ecological information

### Mixture

#### 12.1 Toxicity

No information available.

#### 12.2 Persistence and degradability

No information available.

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## 12.3 Bioaccumulative potential

No information available.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

## 12.6 Other adverse effects

*Additional ecological information*

Discharge into the environment must be avoided.

## Components

*Copper(II) sulphate*

*Biodegradability*

Not applicable for inorganic substances

*Partition coefficient: n-octanol/water*

Not applicable for inorganic substances

*M-Factor*

10

## *Selenium*

*Toxicity to fish*

semi-static test LC50 *Oncorhynchus mykiss* (rainbow trout): > 100 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

(above the solubility limit in the test medium)

*Toxicity to daphnia and other aquatic invertebrates*

static test EC50 *Daphnia magna* (Water flea): > 100 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

(above the solubility limit in the test medium)

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## *Toxicity to algae*

static test ErC50 *Pseudokirchneriella subcapitata* (algae): > 100 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

(above the solubility limit in the test medium)

## *Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

semi-static test NOEC *Daphnia magna* (Water flea):  $\geq$  100 mg/l; 21 d

Analytical monitoring: yes

OECD Test Guideline 211

(above the solubility limit in the test medium)

## *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number UN 3077

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (COPPER(II)-SULPHATE)

14.3 Class 9

14.4 Packing group III

14.5 Environmentally hazardous yes

14.6 Special precautions for user yes

Tunnel restriction code -

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

14.1 UN number UN 3077

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (COPPER(II)-SULPHATE)

14.3 Class 9

14.4 Packing group III

14.5 Environmentally hazardous yes

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**14.6 Special precautions for user** no

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

## Sea transport (IMDG)

**14.1 UN number** UN 3077

**14.2 Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER(II)-SULPHATE)

**14.3 Class** 9

**14.4 Packing group** III

**14.5 Environmentally hazardous** yes

**14.6 Special precautions for user** yes

EmS F-A S-F

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

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## SECTION 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### *EU regulations*

Major Accident Hazard SEVESO III

Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

*National legislation*

Storage class 10 - 13

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

### Training advice

Provide adequate information, instruction and training for operators.



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## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## Regional representation

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*